

Table S1A - Descriptive statistics for pre-stimulus baseline alpha power (% change from baseline)

		Pre-Drink	Post-Drink
Alcohol	Mean Power	6.74	8.58
	SD	2.01	2.91
Placebo	Mean Power	7.81	6.6
	SD	4.75	2.21

Table S1B - Descriptive statistics for pre-stimulus baseline gamma power (% change from baseline)

		Pre-Drink	Post-Drink
Alcohol	Mean Power	0.97	1.01
	SD	0.11	0.18
Placebo	Mean Power	1.04	0.95
	SD	0.21	0.13

Table S1C - Descriptive statistics of alcohol intoxication effects

Saccadic Eye Movement velocity		Pre-Drink	Post-Drink
Alcohol	Mean	544.05	498.64
	SD	44.49	30.3
Placebo	Mean	556.9	536.84
	SD	54.54	38.3
<b>BAES - Sedative feelings</b>			
Alcohol	Mean		2.6
	SD		1.06
Placebo	Mean		1.03
	SD		0.33
<b>BAES - stimulant feelings</b>			
Alcohol	Mean		2.79
	SD		0.66
Placebo	Mean	N/A	2.17
	SD		0.4
<b>SHAS</b>			
Alcohol	Mean		3.38
	SD		1.31
Placebo	Mean		1.1
	SD		0.84

Table S2A Correlations of change in oscillatory responses after alcohol intoxication (\* =  $p < .05$ , \*\* =  $p < .01$ )

		Change in visual gamma power (ALCOHOL)	Change in visual gamma frequency (ALCOHOL)	Change in motor gamma power (ALCOHOL)	Change in visual gamma power (PLACEBO)	Change in visual gamma frequency (PLACEBO)	Change in motor gamma power (PLACEBO)
Change in visual gamma power (ALCOHOL)	Pearson's correlation	1	.473	.062	.42	-.025	.16
	Significance (p)		.12	.864	.174	.938	.659
	N	12	12	10	12	12	10
Change in visual gamma frequency (ALCOHOL)	Pearson's correlation	.473	1	.58	.15	-.124	-.175
	Significance (p)	.12		.079	.642	.701	.628
	N	12	12	10	12	12	10
Change in motor gamma power (ALCOHOL)	Pearson's correlation	.062	.58	1	-.191	-.297	.197
	Significance (p)	.864	.079		.597	.405	.5
	N	10	10	14	10	10	14
Change in visual gamma power (PLACEBO)	Pearson's correlation	.42	.15	-.191	1	-.234	-.607
	Significance (p)	.174	.642	.597		.464	.063
	N	12	12	10	12	12	10
Change in visual gamma frequency (PLACEBO)	Pearson's correlation	-.025	-.124	-.297	-.234	1	-.261
	Significance (p)	.938	.701	.405	.464		.467
	N	12	12	10	12	12	10
Change in motor gamma power (PLACEBO)	Pearson's correlation	.16	-.175	.197	-.607	-.261	1
	Significance (p)	.659	.628	.5	.063	.467	
	N	10	10	14	10	10	14

Table S2B Correlations of change in oscillatory responses, breath alcohol and subjective measures of intoxication (\* =  $p < .05$ , \*\* =  $p < .01$ ).

		Change in visual gamma power (ALCOHOL)	Change in visual gamma frequency (ALCOHOL)	Change in motor gamma power (ALCOHOL)	Change in visual button-press reaction time (ALCOHOL)	Change in amplitude of motor response (ALCOHOL)	Change in latency of motor response (ALCOHOL)	Change in velocity of SEM (ALCOHOL)	Breath Alcohol Content	Change in Subjective High Assessment Scale	Change in Sedative score on BAES	Change in Stimulant score on BAES
Change in visual gamma power (ALCOHOL)	Pearson's correlation	1	.473	.062	-.058	.07	-.245	.109	-.42	.144	-.47	.315
	Significance (p)		.12	.864	.858	.838	.467	.737	.174	.711	.123	.409
	N	12	12	10	12	11	11	12	12	9	12	9
Change in visual gamma frequency (ALCOHOL)	Pearson's correlation	.473	1	.58	-.29	-.033	-.297	-.022	<b>-.605</b>	-.026	-.473	-.123
	Significance (p)			.079	.36	.923	.375	.945	<b>.037*</b>	.947	.12	.752
	N	12	12	10	12	11	11	12	<b>12</b>	9	12	9
Change in motor gamma power (ALCOHOL)	Pearson's correlation	.062	.58	1	.168	.033	-.119	-.092	-.335	-.532	-.417	-.12
	Significance (p)		.079		.565	.915	.698	.765	.242	.092	.138	.724
	N	10	10	14	14	13	13	13	14	11	14	11
Change in visual button-press reaction time (ALCOHOL)	Pearson's correlation	-.058	-.29	.168	1	.361	.212	.192	-.131	-.456	-.356	-.437
	Significance (p)		.36	.565		.186	.449	.493	.629	.117	.175	.135
	N	12	12	14	16	15	15	15	16	13	16	13
Change in amplitude of motor response (ALCOHOL)	Pearson's correlation	.07	-.033	.033	.361	1	<b>.859</b>	<b>-.547</b>	-.265	-.276	<b>-.583</b>	.134
	Significance (p)		.923	.915	.186		<b>&lt;.000**</b>	<b>.043*</b>	.34	.385	<b>.022*</b>	.678
	N	11	11	13	15	15	<b>15</b>	<b>14</b>	15	12	<b>15</b>	12

Table S2B continued (\* =  $p < .05$ , \*\* =  $p < .01$ )

		Change in visual gamma power (ALCOHOL)	Change in visual gamma frequency (ALCOHOL)	Change in motor gamma power (ALCOHOL)	Change in visual button- press reaction time (ALCOHOL)	Change in amplitude of motor response (ALCOHOL)	Change in latency of motor response (ALCOHOL)	Change in velocity of SEM (ALCOHOL)	Breath Alcohol Content	Change in Subjective High Assessment Scale	Change in Sedative score on BAES	Change in Stimulant score on BAES
Change in latency of motor response (ALCOHOL)	Pearson's correlation	-.245	-.297	-.119	.212	<b>.859</b>	1	.117	-.172	-.286	-.414	.149
	Significance (p)	.467	.375	.698	.449	<b>&lt;.000**</b>		.691	.541	.368	.125	.644
	N	11	11	13	15	<b>15</b>	15	14	15	12	15	12
Change in velocity of SEM (ALCOHOL)	Pearson's correlation	.109	-.022	-.092	.192	<b>-.547</b>	.117	1	-.075	-.258	.137	-.302
	Significance (p)	.737	.945	.765	.493	<b>.043*</b>	.691		.791	.418	.628	.34
	N	12	12	13	15	<b>14</b>	14	15	15	12	15	12
Breath Alcohol Content	Pearson's correlation	-.42	<b>-.605</b>	-.335	-.131	-.265	-.172	-.075	1	.151	<b>.646</b>	.127
	Significance (p)	.174	<b>.037*</b>	.242	.629	.34	.541	.791		.623	<b>.007**</b>	.678
	N	12	<b>12</b>	14	16	15	15	15	16	13	<b>16</b>	13
Change in Subjective High Assessment Scale	Pearson's correlation	.144	-.026	-.532	-.456	-.276	-.286	-.258	.151	1	.439	<b>.605</b>
	Significance (p)	.711	.947	.092	.117	.385	.368	.418	.623		.133	<b>.028*</b>
	N	9	9	11	13	12	12	12	13	13	13	<b>13</b>
Change in sedative score on BAES	Pearson's correlation	-.47	-.473	-.417	-.356	<b>-.583</b>	-.414	.137	<b>.646</b>	.439	1	.085
	Significance (p)	.123	.12	.138	.175	<b>.022*</b>	.125	.628	<b>.007**</b>	.133		.782
	N	12	12	14	16	<b>15</b>	15	15	<b>16</b>	13	16	13
Change in stimulant score on BAES	Pearson's correlation	.315	-.123	-.12	-.437	.134	.149	-.302	.127	<b>.605</b>	.085	1
	Significance (p)	.409	.752	.724	.135	.678	.644	.34	.678	<b>.028*</b>	.782	
	N	9	9	11	13	12	12	12	13	<b>13</b>	13	13